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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,462	05/08/2001	Peter Staats	L-F / 207US	3615

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EXAMINER

MANTIS MERCADER, ELENI M

ART UNIT PAPER NUMBER

3737

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/851,462

Applicant(s)

STAATS ET AL.

Examiner

Eleni Mantis Mercader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>01/06/2006</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Critchlow et al.'555 in view of Kormos et al.'285 and Ziaratti'544 (US Patent No. 5,432,544).

Regarding claims 1, 3-7 Critchlow et al.'555 teach a power injector system and a method for use with a magnetic resonance imaging system installed at least in part within an electromagnetic interference shielded room electrically accessible via a penetration panel (in Figure 1, scanner room 115 which is electrically accessible via penetration panel 142 also see paragraph 0014), the power injector system comprising: a power head adapted for operation within the shielded room to controllably inject a compound into a patient (see paragraph 0030 and paragraphs 0042-0045; referring to the components of the injector including the power being enclosed in a Faraday cage 137 in order to shield and reduce EMI noise) and a control panel 110 as indicated in Figure 1 to control the injection process by signals transmitted through the fiber optic 140 (see 0038).

Critchlow et al.'555 do not teach a power supply for operation outside the shielded room to receive utility electrical power; and a power connection configured to couple electrical power

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through the penetration panel between the power supply outside of the shielded room and the power head for actuating the power head.

In the same field of endeavor, Kormos et al.'285 teach the use of shielded spaces to enclose the equipment of choice in the MRI shielded room (see col. 5, lines 27-56). Kormos et al.'285 further teach the modification of using a remote power supply with a coupled shielded wire thereby removing the power from the MRI room in order to reduce EMI noise (see col. 6, lines 9-33).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Critchlow et al.'555 in view of Kormos et al.'285 to incorporate the use of a remote power supply with a shielded wire instead of an enclosed power supply as an alternative way of reducing EMI noise.

Critchlow et al.'555 further teach a power control adapted for operation within the shielded room interposed between the power supply and the power head, the power control operable to selectively actuate the power head with power received via the power connection from the power supply (see paragraphs 0033-0034 and referring to the power drive card 230).

Both the Critchlow et al.'555 and the Kormos et al.'285 references teach the fiber optic cable for providing control signals, and as stated in Kormos et al.'285 col. 6, lines 30-33, this is to allow for better transmission of the signals without degradation of data over long distances. Therefore, it would have been obvious to one skilled in the art at the time that the invention was made that over short distances the use of shielded cables are equivalent to fiberoptics and one

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skilled in the art would be motivated to use one instead of the other as a functional equivalent providing the same end result of signal and/or power transmission.

Critchlow et al.'555 and the Kormos et al.'285 do not explicitly teach the power connection comprising a radio frequency filter reducing radio frequency electrical energy carried through said power connection.

In the same field of endeavor, Ziarati'544 teach the use of cables passing through RF filters disposed in a penetration panel to prevent RF noise from external rooms propagating into the magnet room in order to avoid adversely affecting the image quality (see col. 3, lines 34-41).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Critchlow et al.'555 and the Kormos et al.'285 and incorporated the teaching of Ziarati'544 in order to use RF filters in the penetration panel to prevent RF noise from interfering with image quality. Also note Applicant's own admission as prior art in Figure 1 wherein such filters are used when outside cables penetrate the MRI room.

Regarding claim 2, with respect to the use of a power connection, which is coupled to the data signals thereby creating a single connection, it is a well established principle in the art of electronics that a single cable is preferred over multiple cables to avoid noise. Thereby, the Examiner takes official notice of this fact.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is (571) 272-4740. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Eleni Mantis Mercader  
Primary Examiner  
Art Unit 3737

EMM